IN THE CLAIMS

1-4. (Canceled)

5. (Currently Amended) An OFDM (Orthogonal Frequency Division Multiplexing) receiver, comprising: ~~adapted to be synchronized by means of a received~~

- means for receiving a broadcast burst preamble signal, and

- means for autocorrelating the received broadcast burst preamble signal in order to synchronize the OFDM receiver, wherein

- the preamble comprises at least one first part ~~(A-FIELD)~~ and at least one second part ~~(B-FIELD)~~,

- said at least one first part ~~(A-FIELD) being~~ is designed for a coarse frame detection and/or an AGC control,

- said at least one second part ~~(B-FIELD) following~~ follows the at least one first part in the time domain and being designed for a timing and frequency synchronization,

- the at least one first part ~~(A-FIELD)~~ and the at least one second part ~~(B-FIELD)~~ ~~containing~~ contain Inverse Fourier Transformed (IFT) frequency domain sequences of complex symbols,

- the frequency domain sequence of the at least one first part ~~(A-FIELD)~~ is set depending on the frequency domain sequence of the at least one second part ~~(B-FIELD)~~ such that a second autocorrelation peak mainly generated by the at least one second part ~~(B-FIELD)~~ of the preamble is optimized, and

the time domain signal of the synchronization preamble is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFT,

the remaining inputs of the IFT being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor

~~the sequence of complex symbols of the first part differs from the sequence of complex symbols of the second part in at least one symbol~~.

6-9. (Canceled).

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10. (Currently Amended) A method for the synchronization of a receiver of a OFDM transmission, the method comprising the steps of ~~by means of a broadcast burst preamble, wherein~~

- receiving a broadcast burst preamble, and

- autocorrelating the received broadcast burst preamble, wherein

- the preamble comprises at least one first part ~~(A-FIELD)~~ and at least one second part ~~(B-FIELD~~,

- said at least one first part ~~(A-FIELD)~~ being designed for a coarse frame detection and/or an AGC control,

- said at least one second part ~~(B-FIELD)~~ following the at least one first part in the time domain and being designed for a timing and frequency synchronization,

- the at least one first part ~~(A-FIELD)~~ and the at least one second part ~~(B-FIELD)~~ containing Inverse Fourier Transformed (IFT) frequency domain sequences of complex symbols,

- the frequency domain sequence of the at least one first part ~~(A-FIELD)~~ is set depending on the frequency domain sequence of the at least one second part ~~(B-FIELD)~~ such that a second autocorrelation peak mainly generated by the at least one second part ~~(B-FIELD)~~ of the preamble is optimized, ~~and~~

the sequence of complex symbols of the first part differs from the sequence of complex symbols of the second part in at least one symbol, and

the time domain signal of the synchronization preamble is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT,

the remaining inputs of the IFFT being set to zero, and wherein the sequence at least of the second part is:

$$S_{-26,+26} = N^*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$$
$$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,S11,0,0,0,S12,0,0\},$$

N being a power normalization factor.

11. (Canceled)

12. (Currently Amended) An OFDM transmitter, comprising means for generating and means for transmitting a broadcast burst preamble, wherein ~~designed for generating and transmitting a broadcast burst preamble, wherein~~

- the preamble comprises at least one first part ~~(A-FIELD)~~ and at least one second part ~~(B-FIELD)~~,

- said at least one first part ~~(A-FIELD)~~ being designed for a coarse frame detection and/or an AGC control,

- said at least one second part ~~(B-FIELD)~~ following the at least one first part in the time domain and being designed for a timing and frequency synchronization,

- the at least one first part ~~(A-FIELD)~~ the at least one second part ~~(B-FIELD)~~ containing Inverse Fourier Transformed (IFT) frequency domain sequences of complex symbols,

- the frequency domain sequence of the at least one first part ~~(A-FIELD)~~ is set depending on the frequency domain sequence of the at least one second part ~~(B-FIELD)~~ such that a second autocorrelation peak mainly generated by the at least one second part ~~(B-FIELD)~~ of the preamble is optimized, ~~and~~

the sequence of complex symbols of the first part differs from the sequence of complex symbols of the second part in at least one symbol, and

the time domain signal of the synchronization preamble is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT,

the remaining inputs of the IFFT being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N^*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor.

13. (New) A method for generating and transmitting a broadcast burst preamble, wherein

- the preamble is divided into at least one first part and at least one second part,
- said at least one first part is designed for a coarse frame detection and/or a AGC control,
- said at least one second part following the at least one first part in the time domain and is designed for a timing and frequency synchronization,

- the at least one first part and the at least one second part contain Inverse Fourier transformed (IFT) frequency domain sequences of complex symbols,
- the frequency domain sequence of the at least one first part is set depending on the frequency domain sequence of the at least one second part such that a second autocorrelation peak mainly generated by the at least one second part of the preamble is optimized,
- the sequence of complex symbols of the first part differs from the sequence of complex symbols of the second part in at least one symbol, and
- the time domain signal of the synchronization preamble is generated by mapping frequency domain sequences of 12 complex symbols to a 64 point IFFT,

the remaining inputs of the IFFT being set to zero, and wherein the sequence at least of the second part is:

$S_{-26,+26} = N*\{0,0,S1,0,0,0,S2,0,0,0,S3,0,0,0,S4,0,0,0,S5,0,0,0,S6,$

$0,0,0,0,0,0,0,S7,0,0,0,S8,0,0,0,S9,0,0,0,S10,0,0,0,S11,0,0,0,S12,0,0\}$,

N being a power normalization factor.